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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,826	05/22/2001	Isao Takeuchi	7217/64564	8870

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Jay H. Maioli
Cooper & Dunham LLP
1185 Avenue of the Aamericas
New York, NY 10036

EXAMINER	
SHANG, ANNAN Q	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/862,826	TAKEUCHI, ISAO	
	Examiner	Art Unit	
	Annan Q. Shang	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/24/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-4 are rejected under 35 U.S.C. 102(e) as being anticipation by **Brekelmans et al (6,795,695)**.

As to claim 1, note the **Brekelmans** reference figures 1, 5 and 6, discloses a receiver having a phase-locked loop (PLL) for synchronizing its oscillator and further discloses an interference reducing circuit (IC) comprising:

a phase locking means (see PLL figs 1, 5 and 6) for attaining phase locking to an interference wave having a carrier frequency that is received together with a reception wave by tuning (col. 3, lines 3-25 and col. 5, line 59-col. 6, line 1+);

a level adjusting means (Calibration Circuit 'CAL,' col. 3, lines 6-25 and col. 5, line 59-col. 6, line 1+) for adjusting a level of a phase-locked signal that is output from the phase locking means; note that the CAL includes frequency measurement circuit (FMC) and a frequency adjusting circuit (FAC); and

subtracting means (CAL, col. 3, lines 8-25 and col. 5, line 59-col. 6, line 1+) for subtracting the level-adjusted phase-locked signal from the reception wave, note that the CAL adjusts the frequency oscillator of the PLL in accordance with the measured frequency difference, furthermore, in fig. 5 the CAL adjusts the frequency of the tuner or FRE, and fig. 6 also teaches other summing circuit SUM or subtracting means (col. 6, lines 48-54).

As to claim 2, Brekelmans further disclose where the PLL comprises: a voltage-controlled oscillator (OSC) for producing a signal having a frequency that is varied by voltage control (col. 5, lines 10-58 and col. 6, lines 25-25); a phase comparing means (inherent to the PLL) for comparing phases of an output signal of the voltage-controlled oscillator and the interference wave and a feedback circuit (see figs. 1, 5 and 6) for feeding back, as a control voltage for the OSC, via a second-order loop filter, a phase error signal that is detected by the phase comparing means (col. 3, lines 3-25, lines 50-62 and col. 5, lines 10-58).

As to claim 3, Brekelmans further discloses where the CAL comprises a first-order loop filter (FMC) and adjusts the level of the PLL signal based on a level of a signal that is produced by the subtracting means (col. 3, lines 3-25, lines 50-62, col. 5, lines 10-58 and line 59-col. 6, line 1+).

As to claim 4, Brekelmans further discloses where the interference wave is frequency-modulated carrier and where a loop characteristic of the PLL is so set as to follow a frequency modulation component (col. 1, lines 37-col. 2, line16).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Brekelmans et al (6,795,695)** and in view of **Hori (5,386,240)**.

As to claim 5-6, note the **Brekelmans** reference figures 1, 5 and 6, discloses a receiver having a phase-locked loop (PLL) for synchronizing its oscillator and further discloses an interference reducing circuit comprising:

receiving means (Front-End FRE or Tuner, figs. 5-6, col. 5, line 59-col. 6, line 1+) for receiving a transmitted broadcast signal including video or audio information (col. 1, line 37-col. 2, line 4);

a signal processing circuit (inherent to FRE or Tuner, col. 5, line 59-col. 6, line 1+) for demodulating the digital information of the video or audio information that is output form receiving means;

a phase locking means (see PLL figs 1, 5 and 6) for attaining phase locking to an interference wave(s) having a carrier frequency that is received together with a reception wave by tuning and other TV reception wave that is set in the same channel as the broadcast (col. 3, lines 3-25 and col. 5, line 59-col. 6, line 1+);

a level adjusting means (Calibration Circuit 'CAL,' col. 3, lines 6-25 and col. 5, line 59-col. 6, line 1+) for adjusting a level of a phase-locked signal that is output from

the phase locking means; note that the CAL includes frequency measurement circuit (FMC) and a frequency adjusting circuit (FAC); and

subtracting means (CAL, col. 3, lines 8-25 and col. 5, line 59-col. 6, line 1+) for subtracting the level-adjusted phase-locked signal from the reception wave, note that the CAL adjusts the frequency oscillator of the PLL in accordance with the measured frequency difference, furthermore, in fig. 5 the CAL adjusts the frequency of the tuner or FRE, and fig. 6 also teaches other summing circuit SUM or subtracting means (col. 6, lines 48-54).

Brekelmans further suggests that analog type receivers are not excluded (col. 9, lines 59-61), fails to explicitly teach A/D Converter (ADC) for converting, into digital information, video or audio signal received from the receiving means.

However, note the **Hori** reference figure 1, discloses an analog television receiver which includes an ADC for converting received video and audio signals into digital signals and processing accordingly (col. 7, lines 3-16).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Hori into the system of Brekelmans in order to provide services for users with analog receivers.

Claim 7 is met as previously discussed with respect to claim 2.

Claim 8 is met as previously discussed with respect to claim 2.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Birleson (6,725,463) discloses dual mode tuner for co-existing digital and analog television signals.

Zhodzishsky et al (6,493,378) disclose methods and apparatuses for reducing multipath errors in the demodulation of pseudo-random coded signals.

Park (5,926,515) discloses phased locked loop for improving a phase locking time.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q. Shang** whose telephone number is **571-272-7355**. The examiner can normally be reached on **700am-400pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Christopher S. Kelley** can be reached on **571-272-7331**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC) at 866-217-9197 (toll-free).**

Annan Q. Shang.

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600